With Pioneer Grant

Climatic Data Center Builds On-line Data Storage System

Commerce's National Climatic Data Center used a $30,000 Pioneer Fund Grant to test feasibility of developing a seamless on-line system for access to its large and diverse data bases.

Tests proved successful and the resulting system will permit NCDC's vast storehouse of information to be gradually absorbed into the most up to date computer methodology.

NCDC is a NOAA agency which collects and archives weather related data. It is the world's largest climate archive. Its collection spans the last 200 years and includes historical weather data, polar and geostationary satellite material, and Doppler weather radar information.

Digital holdings compose more than a half million magnetic media units containing almost 500 terabytes of information. Non-digital holdings consist of more than 200 million paper records, two million microfiche and 100,000 rolls of microfilm.

"The size and diversity of the data bases available create a major challenge in the Information Age," said Pete Steurer, data base management chief who led the team employing the Pioneer Fund grant.

"For example, much climate data were collected in the years prior to today's advancement in computers. A major effort is now required to upgrade these data to allow WWW access. This grant allowed us to successfully test the feasibility of a project designed to do this. We put on-line a portion of our data holdings, but also developed a centralized strategy for adding future pieces of the system over several years."

Steurer said the advantage to this approach is that resulting cost of the system is spread over many years rather than requiring a larger outlay of funds for a shorter period. During times of limited budgets, this 'building block' methodology allows a system to be constructed and brought on-line in phases, with each phase usable immediately and employing the latest technology.

"If you cannot bring a new system on-line in less than a year, then advancing technology may outdate you," Steurer noted.

Members of the team assembled included NCDC computer system analysts Charles Phillips, Andy Goss, Doug McElreath and Steve Fleming who developed the data base files. University of North Carolina at Asheville student Brian Bero, who developed the WWW access screens as part of his senior class project.

An example of a common user application of NCDC data is a need to know the existence of climate data either yesterday or many years ago.

Using the WWW system, a user could enter a location's name and click on a map to get a list of stations for a geographic area.

Once a site is selected, a history of that station's record is presented along with a list of data types available and inventories of the selected data and documentation. Downloading, visualization and ordering of the data are the next steps. The eventual goal is to link all together in a seamless WWW system.

NCDC currently handles more than 150,000 telephone and letter requests from customers every year for data and information.

On-line requests continue to grow exponentially and now approach 120,000 per month.

A centralized on-line system will allow more users to access and retrieve data without first contacting NCDC Customer Service staff. The same centralized system will allow Customer Service to more efficiently process requests from users who do not have Internet access.